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ABSTRACT

This book consists of two complete units on the ideas and concepts of science fiction. The first unit is created for lower elementary students and the second one is for upper elementary grade levels. The units are designed for gifted students and encourage students to be responsible for their own education. Each unit is based on an interdisciplinary approach. Suggestions for adaptation of the units are also included. (YDS)

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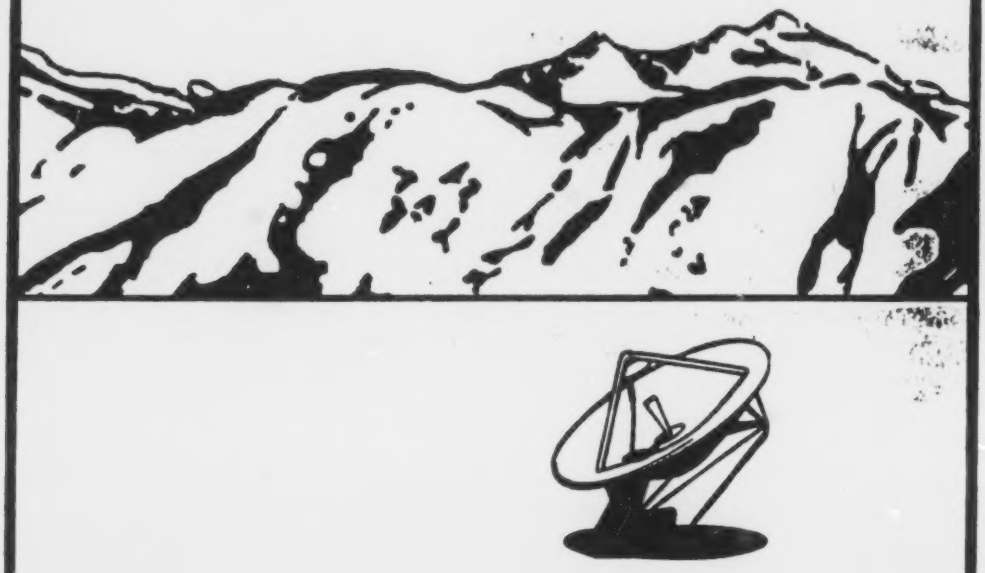
SCIENCE FICTION
Imagining Worlds



A SELF-DIRECTED LEARNING EXPERIENCE

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Each packet:

- **is reproducible**
- **requires little teacher preparation**
- **works well with the entire class, individually, or with a small group**
- **includes two group levels: K-3 and 4-8, a bibliography, and learning center ideas**

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SCIENCE FICTION

Imagining Worlds

Patricia Payson

Self-directed study units
for grades K–3 and 4–8.

Process- and product-oriented
interdisciplinary learning through:

Evaluating
Imagining
Researching
Reporting
Thinking and reacting
Mapping and charting
Creating and appreciating
Classifying and comparing
Career exploration and goal clarification

Zephyr Press
Tucson, Arizona

Science Fiction
Imagining Worlds

Grades K–8

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The Premise

Learning Is Natural

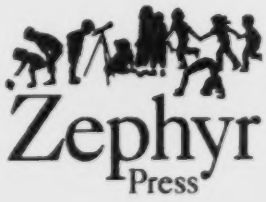
Children are active participants in their learning, not passive vessels to be filled.

They are always seeking and choosing what they will learn and what they will not learn.

Their interest, trust, and active involvement are crucial.

Children tend to become personally involved in projects that appeal to a variety of modalities—reading, writing, reasoning, building, imagining, and creating.

What a gift we give when we respect the child's natural need to explore, to reflect, to communicate, to dream, to celebrate!



(Available in poster form from Zephyr Press)

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A Word to the Teacher

SCIENCE FICTION

Science fiction, roughly defined, is a story . . . a fantasy . . . played in a surreal background, a fantasy that could take place if certain advancements in science and technology—or maybe just changes in our awareness—were to occur.

Fascinating creative minds since the days of Buck Rogers, science fiction is now a highly respected addition to the world of literature. Authors such as Asimov, Bova, Heinlein, Bradbury, and L'Engle continue to tantalize their readers with possibilities of time warps, cloning, robots and androids, special mental and physical abilities, and the possibility of life on other planets. A number of the better-known authors are well versed in the subject of real science, and their vocabulary and scientific background lend a sense of realism and possibility to their stories. The movie industry, with extravagant special effects, has captured the imagination of all until science fiction has become another part of mainstream American culture.

Rationale for Self-Directed Learning

Our children's education must be more than the memorization of capitals of states, products of countries, and dates and places of past wars. Most teachers and parents would agree that what is also wanted is for our children to learn to think for themselves, to make wise choices, to work independently, to evaluate thoughtfully the results of their study, and to use their knowledge and skills creatively.

Obstacles to Independent Learning

In spite of the teacher's best efforts, many, if not most, classroom programs involve students in schedules and organizational plans that foster dependence rather than the independence we prefer. Students are told what is to be learned and how long it will take them to learn it. The teacher not only defines the resources but also decides whether the learning experience was a satisfactory and valuable one.

A Learning Atmosphere

Each time we, as educators, focus on what our objectives are, we need to take a fresh look at our classroom mode of operation and evaluate the effectiveness of the way we teach. Quite naturally, for most of us, our teaching style has had more to do with how we were taught than with what recent research has shown about the learning process. Even our good instincts have been overcome by the years of conditioning we have known in our own educational processes.

Like a breath of fresh air, recent findings from research on the brain support our intuitive knowledge. This research shows that our brains are receptive to learning only under certain conditions. Our job is to translate that information into a classroom atmosphere that provides

- challenge
- freedom within structure
- trust and warmth
- recognition of each student's learning process
- opportunities to experience success
- personal involvement in the curriculum

A natural transition generally occurs that transforms the former "teacher-lecturer" into a "fellow learner." As fellow learner, the teacher becomes a resource person, a facilitator, and a classroom manager. In this maturing atmosphere, students gradually come to see themselves as responsible for their own learning, and a foundation for self-direction is set.

At this point, an unexpected problem sometimes arises. We find students no more ready for their independent learning than we, as teachers, were ready to allow it. This common occurrence is mentioned repeatedly in the literature dealing with programming for the gifted, an area in which independent study and research are recommended as major curricular activities. See Suggested Readings.

From Passive Learner to Active Participant

(Bridging the Gap)

The Zephyr self-directed study unit was developed expressly to bridge that gap: to transport the student from the position of passive recipient to that of an active participant in his/her own pursuit of knowledge.

Within the defined structure of each unit, students are given opportunities to

- make choices
- learn at their own paces
- learn in a manner suited to their own learning styles
- expand their research skills
- use a variety of modalities
- plan their own time
- develop the skills of creative, critical, and evaluative thinking
- experience whole-brain learning

Because assuming responsibility for directing their own learning is often an unfamiliar situation for students, they will need your encouragement at the start. Generally within six to nine weeks most students will be well on their way from teacher-dependence to self-motivation. (Beginning the venture with only a few choices, then gradually arranging the setting so that there are more and more choices works best.) As students assume more responsibility, many teachers begin to consider the school library as just another part of the classroom. Both teachers and students can benefit from the enormous resources available in most school libraries.

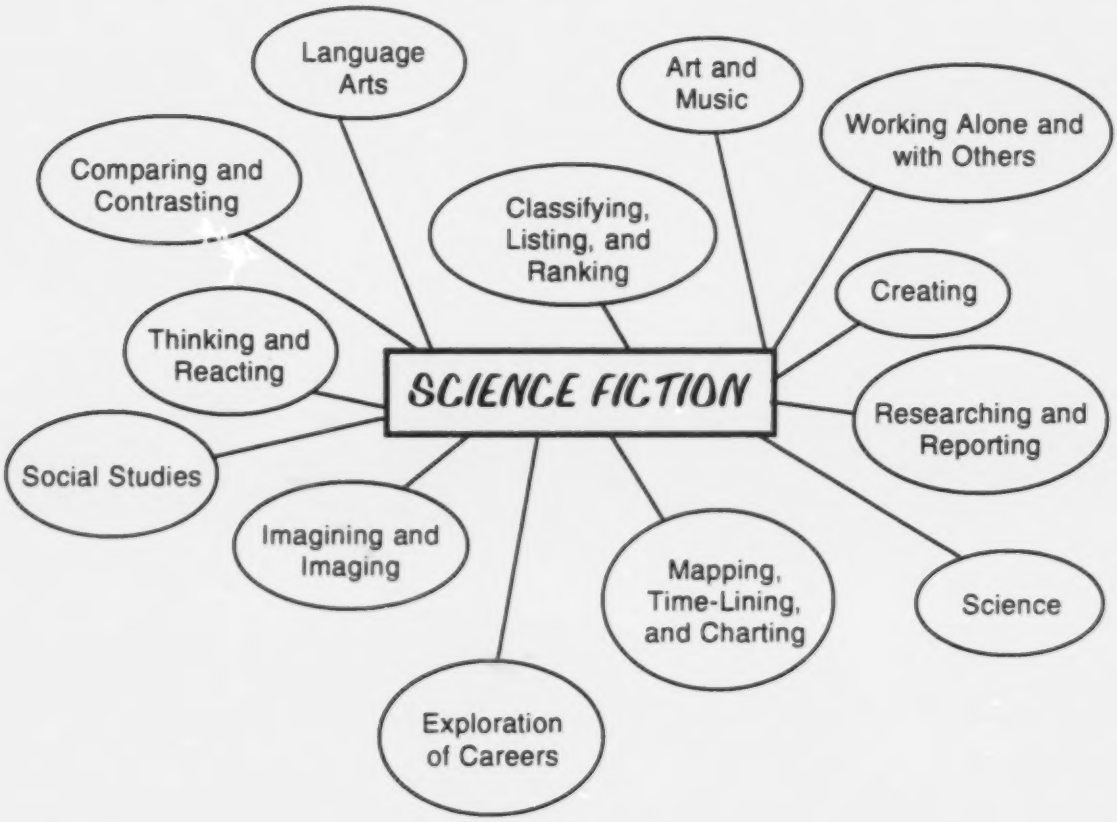
Eventually, a few students will be ready for a true investigative research study of professional quality as suggested by Joseph Renzulli in *Enrichment Triad Model: A Guide for Developing Defensible Programs for the Gifted and Talented.*

The Format

These units were originally developed for gifted students, but we now recognize that every child is gifted in one or more of the multiple intelligences. The units emphasize the use of higher-level thinking skills and are appropriate for use in any classroom where the goal is to encourage students to become responsible for their own education.

Interdisciplinary in content, each unit envelops a broad view of the topic by integrating the "basics" into each activity.

Within this book are two complete units: one created for the lower elementary student and one for the upper elementary student. Suggestions for adapting or adjusting either of the levels to fit any individual classroom are included.



Suggested Readings

Self-Directed Study

Armstrong, Thomas. *In Their Own Way: Discovering and Encouraging Your Child's Personal Learning Style.* Los Angeles: J. P. Tarcher, 1988.

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Kline, Peter. *The Everyday Genius: Restoring Children's Natural Joy of Learning.* Arlington, Va.: Great Ocean, 1988.

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Malehorn, Hal. *Open to Change: Options for Teaching Self-Directed Learners.* Palo Alto, Calif.: Scott Foresman and Company, 1978.

Miller, Ron. *What Are Schools For? Holistic Education in American Culture.* Brandon, Vt.: Holistic Education Press, 1990.

Purkey, William, and John Novak. *Inviting School Success: A Self-Concept Approach to Teaching and Learning.* 2d ed. Belmont, Calif.: Wadsworth Publishing Company, 1984.

Renzulli, Joseph. *Enrichment Triad Model: A Guide for Developing Defensible Programs for the Gifted and Talented.* Mansfield, Conn.: Creative Learning Press, 1977.

Stoddard, Lynn. *Redesigning Education: A Guide for Developing Human Greatness.* Tucson, Ariz.: Zephyr Press, 1991.

Udall, Anne J., and Joan E. Daniels. *Creating the Thoughtful Classroom: Strategies to Promote Student Thinking.* Tucson, Ariz.: Zephyr Press, 1991.

Getting Started

1. Select a topic as an extension of a regular subject (particularly when your class seems to crave more), or select a topic to pursue that is of particular interest and may not be a part of the curriculum. To zero in on special interests, administer an interest survey to each student.

2. Copy the unit for each student. When using these units for the entire class, you may want to expand or delete activities for individual students.

3. Set up a center in the classroom that encourages exploration in the subject field. You'll want to include a variety of materials. Be creative—the purpose of the center is to excite the students, so begin with lots of hands-on materials. Allow for ample browsing time and encourage students to investigate and become absorbed.

4. Go over each activity in the unit with the students, discussing and answering any questions. You, as teacher, are the key to successful implementation. Because most children are already well versed in the "One Right Answer" game, they will need encouragement to branch out into many of the open-ended activities in the packets.

5. Set the stage. Plan conferences and provide resources as needed. Then, get out of the way and let your students learn.

6. Give as much time as each student needs to complete each activity in the unit. The entire packet might take from five to ten weeks or longer.

7. As each activity is completed and evaluated, initial the activity near each number. You will want to evaluate on the basis of the response that is appropriate for each individual student.

8. When a student shows extreme interest in the topic, the completion of this unit might be only the beginning. This student may be ready for further study and research and may need only resources, guidance, and freedom to pursue his/her well-planned project.

Interest Development Center

SCIENCE FICTION

The purpose of the interest development center is to stimulate interest in the topic. The students need time for browsing and investigation to reap the maximum benefit of the unit. These are beginning ideas; you and your students will think of more. Let parents and other teachers know about the center, and it will grow many times without effort.

Books, Videos, Filmstrips, Magazines

Robots
Cloning
Androids
Quarks
Black holes
Space exploration
Computers
Virtual reality
Omni
Galaxy
Analog
Eternity
Mercury

Art Supplies

Water colors
Oil-based paints
Glitter paints
Cardboard
Polyform
Clay
Tin or aluminum foil

Posters

Space art
Space exploration
Advertisements for science fiction movies
Astronomical charts

Records and tapes

Soundtracks from science fiction movies
Copy of "War of the Worlds"

Toys and games with a science fiction theme
News clippings and announcements of TV specials

To Prepare for Further Research

Students will need to decide:

- What will the study be? What will be investigated and produced?
- Where will the background information be found (e.g., speaker, interviews, books, film, microfiche, documents)?
- What, exactly, will be the form of the product: a model, a manuscript, or . . . ?
- Who might be interested in the product: professionals in the field, publishers, organizations, or . . . ?
- What is needed to begin: specific plans, resources, deadlines, or . . . ?

Suggestions for Adapting the Unit to Your Particular Learning Situation

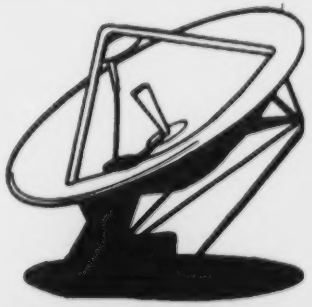
- Require fewer, or more, research sources.
- Assign more of the activities to small groups instead of to individual students.
- Give fewer or more choices.
- Delete some activities altogether.
- Arrange the unit as a class project, with students choosing different parts to complete.
- Add some activities of your own.

UNIT I

SCIENCE FICTION

Imagining Worlds

Name _____ Date _____



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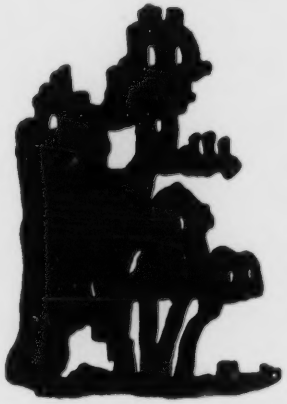
1. Setting the Stage



Have you ever wondered what science fiction is? Close your eyes for a minute and think about the words. What do you see? Hear? Smell? Taste? Fill in the following list:

What I saw

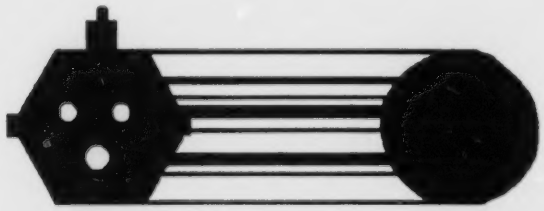
What I heard

What I smelled

What I tasted

What I touched and how it felt

- Draw a picture of the image.



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2. Research Report

Go to the library and talk to the librarian about science fiction. Find out if there is a difference between science fiction and fantasy.

THEN

Choose 4 or 5 science fiction books and 4 or 5 fantasy books.

Spend some time enjoying them.

- Describe to your class or your teacher what interests you most about these books.

OR

- Write a report about what you like best about these books.

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3. Read

Read a science fiction story.

If several of your classmates are reading the same story, get together and talk about

the main characters

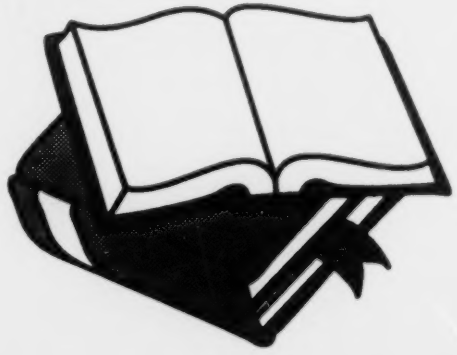
the plot

your favorite part

what part you would like to change

If you are the only one reading the story, find someone and tell that person about the story.

- Make up a song about the story.



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4. Puppet Show

Choose a film or a book from the bibliography. (Be sure that your choice is one your parents would allow you to read or watch.) Watch the film or read the book. Choose a scene that you liked.

- With some of your classmates, make puppets of the characters in the work. Put on a puppet show of the scene for your class.

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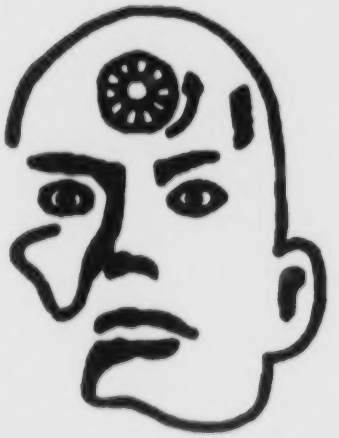
5. Vocabulary



Find out what these words mean.

clone	**fantasy**
galaxy	**science fiction**
time warp	**dimension**
quark	

_____ _____

(Add some words from books you are reading.)

- Make a seek-and-find puzzle using some or all of the words in the list. Make copies of your puzzle for your friends.

OR

- Choose one or more of the words and draw a picture that shows what it means.

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6. Choose One

Find out about

black holes

neutron stars

quasars

time warps

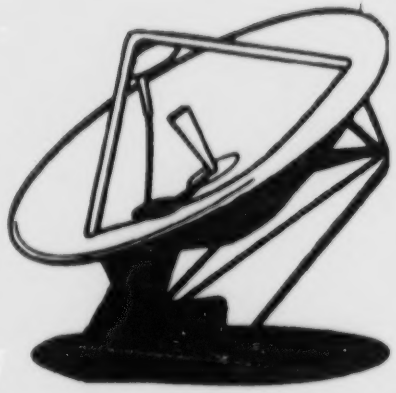
other dimensions

time travel

quarks

Show what you found by making one of the following:

- a chart
- a model
- a mobile



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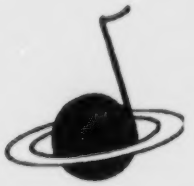
7. Use Your Imagination



- Create some sounds of the future or of an alien world and make a tape.

OR

- Create an exhibit of space art. Include your own art, your classmates' art, and other pieces you find.

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8. Unusual Abilities

Characters in science fiction stories often have unusual abilites:

the ability to hear from great distances

the ability to see through walls

the ability to read another person's mind

the ability to move things with their minds

_____ (your ideas)

Pretend that you have one of these abilities. Think about a day in your life. Start when you wake in the morning and think about the whole day until you go to bed at night.

THEN

- Create a skit that shows what a part of your day is like. With others, perform the skit for your class.

OR

- With a group of friends, play "unusual abilities" charades. Take turns acting out having different unusual abilities and try to guess what each others' abilities are.

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9. What If . . .

What if a television set could watch every movement in your house? How would that change your life?

What if you could travel through time? Where would you want to go? Why?

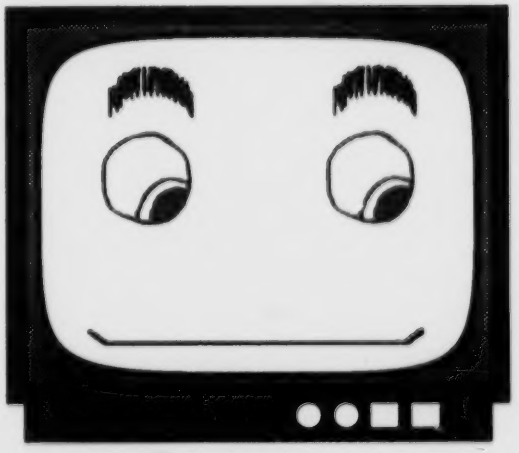
What if cloning were possible? Whom would you want to clone? Why?

What if people could be made invisible? How would that be good? How would that be bad?

- Write a story or a poem or draw a picture using one of these events.

OR

- Pretend you are a TV reporter doing a story on one of these events. Present your newscast to the class.



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10. Time Travel

Imagine that you can transport yourself through time.

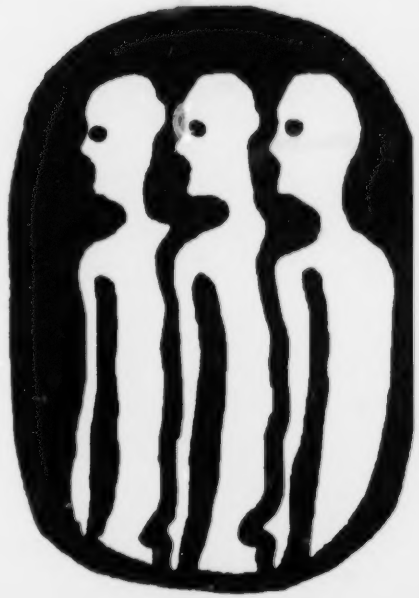
Close your eyes . . . sit quietly for a few minutes . . . take several slow, deep breaths.

See yourself . . . see what you are doing . . . notice who is there . . . the colors . . . the sounds . . . the smells . . . the feelings in your body. See your face . . . notice the look on your face.

- Draw what you saw. Show the drawing to a friend and describe it all.

OR

- Write a letter to a pet or some other best friend from your new time. Tell what your life is like in that time.



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11. Recipes for Fun

Find a recipe for your favorite cookies or some other baked good. Change the names of the ingredients in the recipe to names that might exist in your favorite science fiction or fantasy story. Rename the cookies.

- Write out the recipe with the new ingredients. Give it to some of your friends and have them figure out what the ingredients are. Bake the cookies for your class.

OR

- Create a menu for a restaurant that could be in your favorite science fiction or fantasy story.

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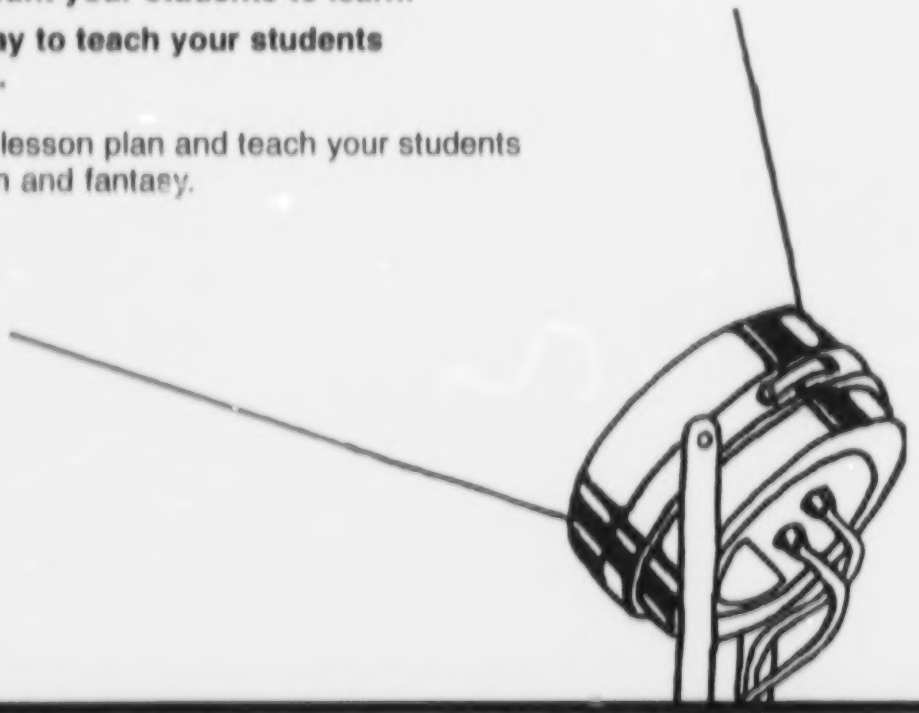
12. Teacher for a Day

Pretend that you are the teacher and your classmates are your students. You are going to teach your students about science fiction and fantasy.

Decide what you want your students to learn.

Decide the best way to teach your students that information.

- Write out or draw a lesson plan and teach your students about science fiction and fantasy.



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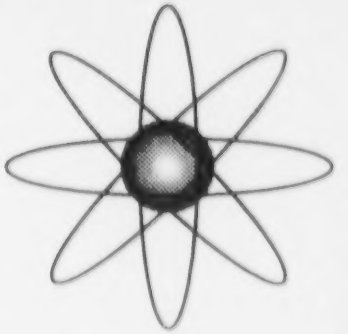
13. Civilizations in Other Environments



Read stories about underwater cities. Then think of what people would need to live in the ocean. Would the things that lived there be like us? How would they get or grow food? What would they like to do?

- Create an underwater city. Make a model or draw pictures of it.

OR

Find out about atoms and molecules. Think about a whole world on an atom. What problems would the inhabitants have? How would they travel? How would they keep their world from colliding with other atoms?

- Make a diorama showing life on an atom.

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14. Books and Film

Read a science fiction or fantasy story and watch a film based on the story. What did you like best about each? Which did you like better? Which came first, the written or film version? Which did you find out about first? Did this make a difference?

- List parts from the book that could have been included to make the film better, or vice versa. Explain why you chose those parts.

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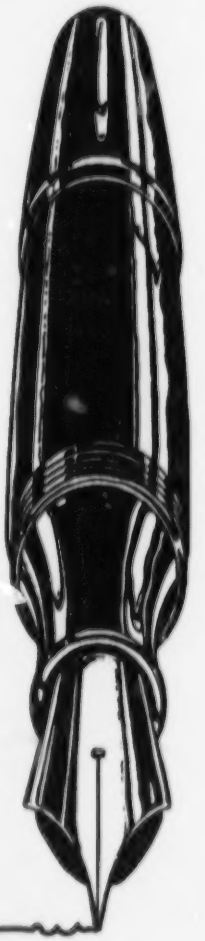
15. With Pen in Hand

CHOOSE ONE

- Take a journey through an atom. Keep a record in writing or in pictures. What do you see along the way? How does your body feel? What do you smell? What sounds do you hear? Touch different things you see along the way and note their textures.
- You have a pen pal who lives in a different time, past or future, or in another world. Write a letter or tape record a message to yourself from your pen pal. Then write a letter or tape a message in response. Tell about your lives: how you are taught, what you learn, what you do for fun, and so on.
- You are a passenger on a space flight to form a new colony. You may take one trunk measuring 3' x 4' x 2'. Make a list of the items you will take. Tell why you decide on each item to take.



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16. Space Art and Music

Find out about 3 artists who use space as their subjects. What do some of their paintings or drawings look like?

- Create an exhibit of space art (yours, your classmates', or the work of professional artists).

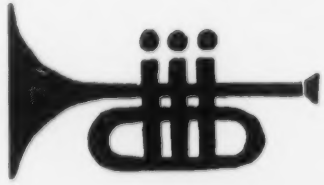
OR

Listen to recordings of:

music describing space travel

instruments that remind you of other worlds or beings

background music for science fiction movies



Create some music—sounds of the future or sounds of another world. How do beings from other worlds react to your music? Do they listen? dance? sing? Or do they do something different with music? Do they play with it? Do they eat it?

- Tape your music and show what the beings do with it.

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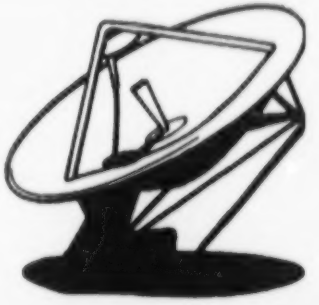
UNIT II

SCIENCE FICTION

Imagining Worlds

Name _____ Date _____



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1. Read

Read two science fiction novels such as Card's *The Abyss*, Le Guin's *Earthsea* trilogy, Longyear's *The Homecoming*, or Norton's *Moon of Three Rings*. Also read one short story such as Asimov's *Nightfall*.

Have your teacher approve your choices before you begin reading. If several of your classmates are reading the same work, then discuss the plots and main themes of your readings together (also discuss whether the author handled it believably and whether you agree with the way things turned out).

- Write your own short story. Be sure to consider how to make it believable.

OR

- Write a brief description of the plot, main theme, and other elements of the stories you chose. Include your impressions about the believability of the story.

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2. Writing Science Fiction

Find out about the authors of the two novels you read or two others from the bibliography. Try to find out why they write science fiction and what sorts of themes or plots they generally use.

- Correspond with one of the authors about writing science fiction.

OR

Find out about some science fiction comic strips written in the 1930s to 1950s, such as "Buck Rogers" by Phil Newlin. Compare and contrast them with a current science fiction television series.

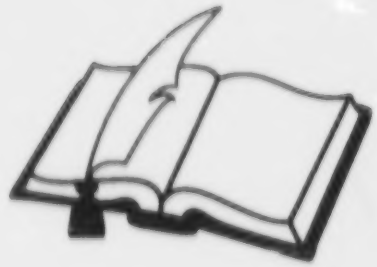
What differences do you see in the characters, events, and background?

- Create a presentation to give your class. Be sure to use visual aids.

OR

Research the history of science fiction writing.

- Prepare a time line of important novels or stories and their authors. Also include the first publication dates of significant science fiction magazines.



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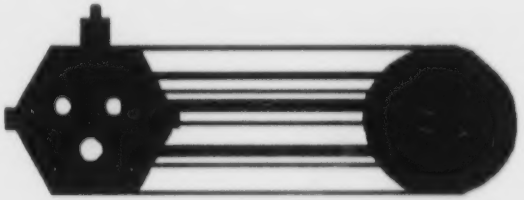
3. Scrambled Science Fiction Titles

In the following list, the first word or two of one title has been joined to the last words of another title.

Have Spacesuit of Steel	*The Forgotten Mountains*
Out from the Stars	*The Caves in Time*
Planet of Three Rings	*The White Door*
Enchantress Will Travel	*The Time of the Apes*
A Wrinkle Machine	*Moon of the Silent Planet*

Using a title from the list, do one of the following:

- Write a story.
- Develop an advertising campaign for a movie.
- Write a song or choreograph a dance.
- Make a costume for a character in the story.



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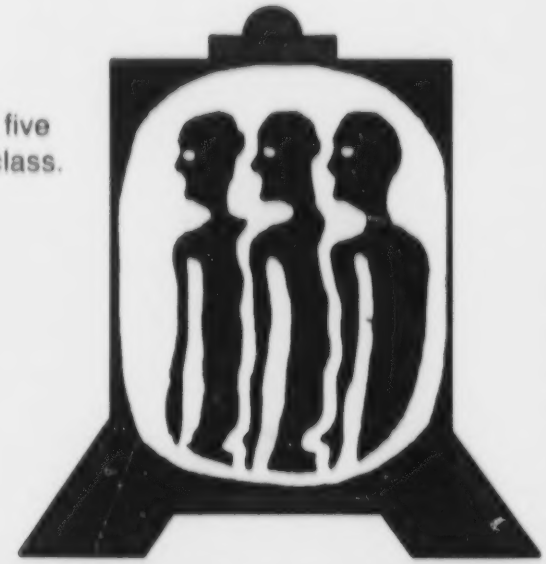
4. Science Fiction, Fantasy, and Horror

Define *science fiction*. Compare and contrast it with *fantasy* and *horror*.

- Paint or draw a scene from a science fiction work you have read and a scene from a fantasy or horror story you have read. Show your painting to a friend. See if your friend can tell which one is science fiction and which one is fantasy.

OR

- Write a science fiction, horror, or fantasy play for three to five characters. With some friends, perform the play for your class.



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5. Books and Film

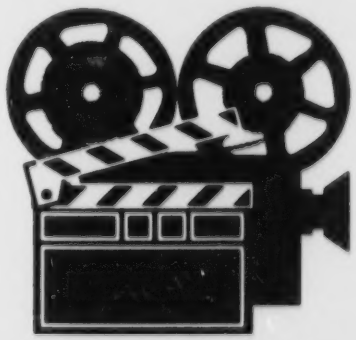
Compare and contrast science fiction books with science fiction film. What are the strong points of each medium?

- Make a video or filmstrip based on a science fiction story you have read. You'll have to decide what parts of the dialogue are important, what scenes to include, and so on.

OR

Select a story that you can read and see on film. Which version is more effective? Which came first, the written or film version? Which did you find out about first? Did this make a difference?

- List parts from the book that could have been included to make the film better, or vice versa. Explain why you chose those parts.



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6. Compare and Contrast

Compare and contrast life as you know it with life in one of the science fiction stories you have read. Consider a variety of elements. Following are some suggestions:

family structures
values
methods of communication
architecture
art
politics
sports
leisure time
food

CHOOSE TWO

- Create a piece of art in the style of the culture in the story.
- Make a model of a building in the style of the culture in the story.
- Write a recipe for a dish that the people in the book would eat. Make the dish, substituting ingredients from Earth.
- Create a mural depicting family life in the story.
- Create a game, including the rules, that people in the story would play.

Share your creations with your class.

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7. Other Cultures

Think about everything an astronaut needs to survive in space (food, oxygen, pressurized suits, and so on).

Then think about a being that has naturally adapted to an environment that is different from Earth's. Maybe it needs something other than oxygen to survive. Maybe it consumes stars. What does it look like? How does it communicate? How does it travel? What music does it like? How does it create art?

- Create a mural that shows life in your being's environment.

OR

- Compose a song or choreograph a dance that your being might enjoy.

OR

- Choose your own form of presentation to present the information to others.

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8. Other Dimensions

Find out what *dimension* means in a science fiction context. What might it be like to experience another dimension? How would your body feel? What would you look like? Could you still communicate with your friends? What would a flower smell like?

- With a group of friends, play "dimension charades." Take turns acting out what it might be like in other dimensions and have your friends try to describe the dimension you're in.

OR

- Write a poem about interdimensional travel.

OR

- Devise a computer or video game in which a character has to solve a problem (save someone's life, learn something, and so on) by traveling into other dimensions.

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9. Space

Research the existing evidence that there is life in outer space.

- Write a paragraph proving or disproving the possibility based on the evidence now available.

OR

What do we know about black holes, neutron stars, quarks, and quasars?

- Research and create mobiles or project cubes to present your findings.

OR

What technological obstacles do we need to overcome in order to travel freely in space? Consider speed, time necessary to reach other star systems, materials needed for a space vehicle, and human limitations.

- Choose one of the obstacles and write a proposal about how to overcome it.

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10. Plant Life

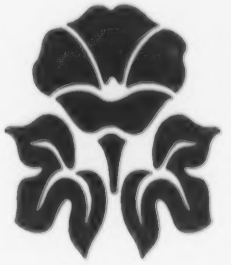
You are the horticultural editor of a space newspaper.

- Write an article describing plant life on other planets. Keep in mind the varying atmospheres, pressures, temperatures, and so on. Mention examples of plant life envisioned by authors of science fiction you have read. Be sure to cite the living conditions on the planets or in other space environments.

OR

You are heading a group of scientists who are experimenting with cloning a variety of plants. Consider the possible positive and negative outcomes of your research. You are the scientist responsible for making sure cloning will be used only for good purposes. (For example, you might decide that good uses are curing diseases and providing food for all people in the world without using much land, and bad uses include destroying an entire culture.) What good uses of cloning would you list? What restrictions would you list?

- Write your list of acceptable and unacceptable uses of cloning. Use your list as the basis of a debate in which you take the side supporting cloning and a friend takes the opposing side.



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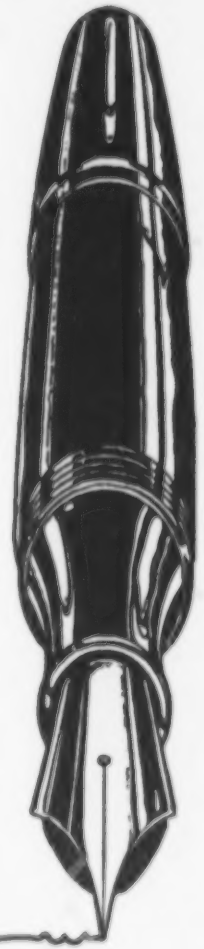
11. With Pen in Hand

CHOOSE ONE

- Keep a log of your journey through an atom. What do you see along the way? How does your body feel? What do you smell? What sounds do you hear? Touch different things you see along the way and note their textures.
- You have a pen pal who lives in a different time, past or future, or in another dimension. Write a letter to yourself from your pen pal and write a letter in response. Tell about your lives in the letters: how you are taught, what you learn, what you do for fun, and so on.
- You are a passenger on a space flight to form a new colony. You may take one trunk measuring 3' x 4' x 2'. Make a list of the items you will take. Justify your selections.



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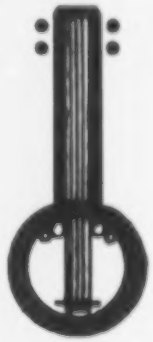
12. Space Art and Music

Research at least 3 artists who use space as their subjects. What must such artists consider? How has such art changed over the past century?

- Create an exhibit of space art (yours, your classmates', or the work of professional artists).

OR



Listen to recordings of:

music describing space travel and phenomena

instruments suggesting other worlds or beings

background music for science fiction dramas

Which instruments create which effects?

Create some music—sounds of the future or of an alien world.

How do beings from other worlds react to your music? Do they listen passively, dance to it, sing? Or do they have an entirely different use for music? Do they toss it around? Do they eat it?

- Tape your music and show what the beings from another world do with it.

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13. Civilizations in Other Environments

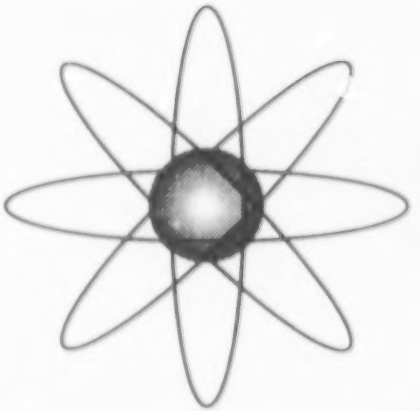
Research stories about underwater cities. Then think of what a civilization would need to flourish in the ocean. Would the population be humanlike? How would they get or grow food? What would they like to do?

- Create an underwater city in an aquarium. Make sure that you consider the environment.

OR

Find out about atoms and molecules. Consider an entire civilization that lives on an atom. What problems do they have? How do they travel? How do they keep their world from colliding with other atoms?

- Make a diorama showing life on an atom.



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14. Language

- Create a seek-and-find or crossword puzzle of science fiction words and well-known characters and authors of science fiction stories. Make some copies for friends.

OR

Create a language for another civilization—one from another planet, one from another dimension, or one from a time in the future. What would they call their home? What would be words for friend? For pet?

- Write a conversation using the language. Read it to the class and see if other students can translate it.

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15. Vocabulary

Look in a dictionary and note all the parts in a definition and how they are listed. Note how the word appears, how the part of speech is listed, how the origin of the word is listed, and the parts of the definition.

Then, list all the new science fiction and fantasy words that you have learned.

- Choose five to ten words and compile a dictionary, including all the elements for each word that a regular dictionary has. List the part of speech, the origin of the word (make up an origin if one is not clear), and the definition or definitions.

Illustrate your dictionary, making a sketch, painting, or coloring for each word.

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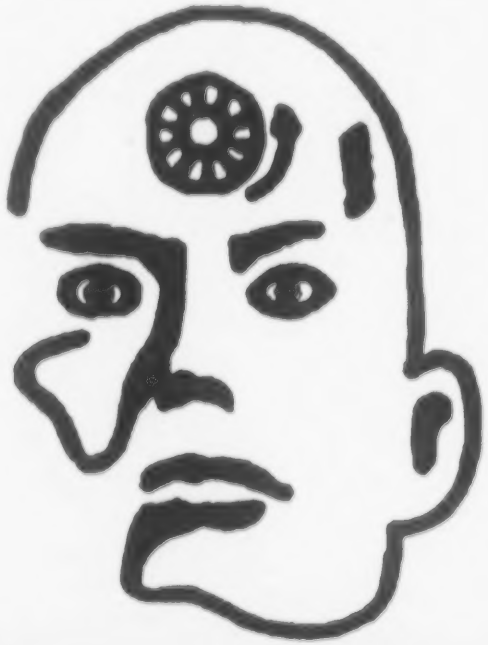
16. Use Your Imagination

Listen to Orson Welles's program "The War of the Worlds."

- Create your own radio broadcast about visitors from another planet.

  Would the visitors be friendly? What would they look like? What knowledge would they have to share with us? What would you share with them?



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17. What If . . .

What if a machine were invented that could predict what your life would be like in ten years? Would you use the machine? Why or why not?

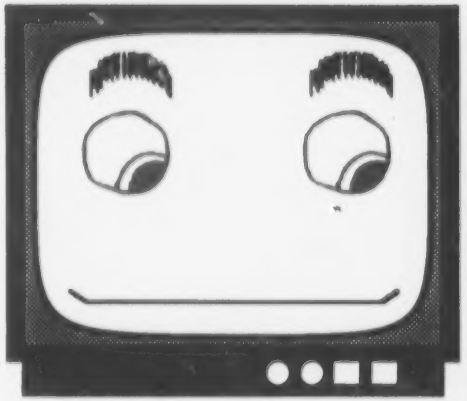
What if a television set could be programmed to watch you no matter where you were in your house? How might you change your behavior?

What if a cloning firm offered to clone you? Would you choose to be duplicated? Would you choose to have someone else duplicated? What might some of the consequences be?

What if people could live to be hundreds of years old? How long would you choose to live? What conditions would you require?

What if people were able to be invisible? What would be the benefits to you?

- Make up some "what-ifs" of your own. Read *Grokking the Future* by Hollister and Thompson for more ideas.



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18. With Some Friends or by Yourself

Look at several science fiction magazines. Include *Omni* and at least two others. Here are some possibilities:

Galaxy

Analog

Fantasy and Science Fiction

Eternity

- Create your own science fiction magazine. Choose people to be editor, writers and reporters, artists, advertising directors, and anyone else you can think of. If you have a computer or other means, publish your magazine and distribute it to schoolmates.

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19. Use Your Imagination

Suppose the Earth stopped spinning. Think of all the consequences. How would people have to change in order to survive?

- Develop a product to sell to people that would help them. Include a description of how it works, any side effects or cautions, and the price. Make posters to advertise it.

OR

- Write a play, short story, or essay about what happens when the Earth stops spinning.

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20. The Wonders of the World

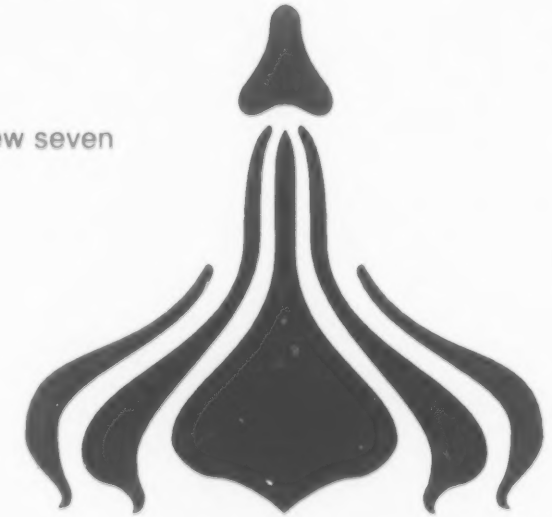
Find out about the Seven Wonders of the Ancient World.

Create seven wonders of another dimension.

- Use papier mâché, clay, paints, paper, or other sculpting material to model and decorate them. Present them to the class.

OR

- Prepare a chart or display with a description of the new seven wonders. Include their histories and locations.



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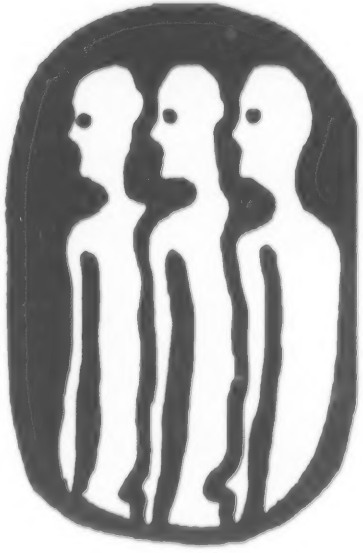
21. Think and React

List the science fiction novels and short stories you have read and their authors. List the science fiction movies you have seen and their directors. Survey other students and/or adults who read science fiction and add the additional titles to your list.

Circle the ones where beings of different worlds meet each other.

How does the author or director depict nonhuman beings? Are they stereotyped? Are there clear distinctions between "good guys" and "bad guys"? How realistic are these distinctions? How does their ability or lack of ability to communicate with one another make the situation worse? What do you think of the hypothesis that language shapes perception, that the particular language people speak is very important to the way they think about things and to what they perceive around them?

- Write a report in which you compare the prejudices evident in the stories with prejudices you know about in our time and place.



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22. Films and Games

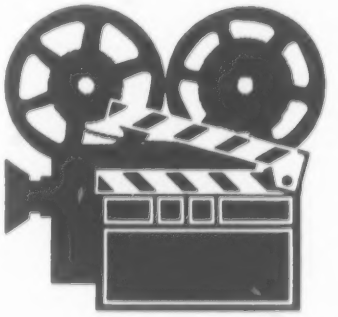
Choose a film from the bibliography. (Be sure that the film is one your parents would allow you to watch.) Watch the film, noting the various challenges and obstacles the characters must overcome.

THEN

- Create a board game using the characters and obstacles. You must decide how to determine the winner: Will players get points for certain feats, or will they win when they overcome a number of obstacles to reach a destination?

OR

- Create a map of the setting of the film. You will need to come up with symbols to represent the different elements.



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23. Sharing with Others

- With other students in your class, create a museum of science fiction. Include different products you have created in class, such as models, pictures, poems, stories, and items you find in the library or elsewhere, such as books and artwork. Invite other classes to visit your museum.

OR

- Write and illustrate a science fiction story for younger students. You may write a new story, or you may choose a book you have read and make it into a picture book with less text so a younger person can enjoy it. Decide what age you are writing for before you begin.

OR

- Compile a science fiction scrapbook that would make another student interested in learning more about science fiction. Include all of your work—your writings, your artwork, your impressions, your responses to the work.

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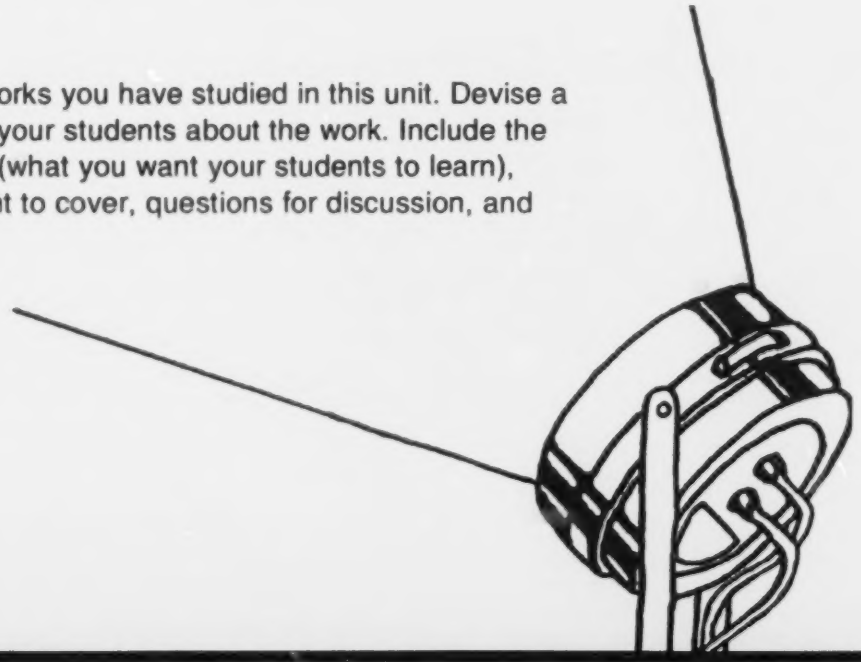
24. Being the Teacher

You are the teacher of this unit. Your fellow students are your students.

- Create a work sheet that will lead your students through a project related to science fiction. Will you teach them how to understand the plot of a story? Will you show them how to build a model of another dimension?

OR

- Choose one of the works you have studied in this unit. Devise a lesson plan to teach your students about the work. Include the goals of your lesson (what you want your students to learn), major points you want to cover, questions for discussion, and so on.



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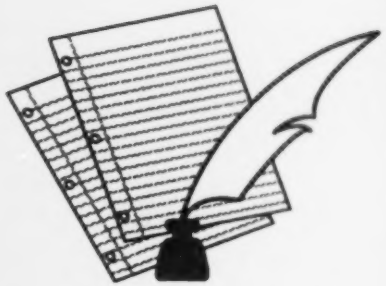
25. Letters and Journals



Find out about journals and diaries. Then choose a science fiction or fantasy film or book that you enjoyed reading. Decide who the "good guy" is, or decide which character you like or identify with best. Decide who the "bad guy" is, or decide which character you like or identify with least.

- Write two journals, one as if you were the character you like and one as if you were the character you do not like. Your entries in both journals will reflect the characters' feelings about their actions and the other characters, their motivation for their actions, their responses to other people, and so on.

OR

- Write a letter from your favorite character to your least-favorite character. Then write a letter in response from your least-favorite character. Continue the correspondence until you feel that you understand both characters.

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The Abyss

Andromeda Strain

Anna to the Infinite Power

Back to the Future

Back to the Future II

Back to the Future III

Bamboo Saucer

Beauty and the Beast (television series)

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The Black Hole
The Electric Grandmother
The Empire Strikes Back
Fahrenheit 451
Fantastic Voyage
Field of Dreams
Flight of the Navigator
The Incredible Shrinking Man
Innerspace
Invasion of the Body Snatchers
Journey to the Center of the Earth
Journey to the Center of Time
Journey to the Far Side of the Sun
Labyrinth
Logan's Run
Making Contact
My Science Project
The Navigator: A Medieval Odyssey
The NeverEnding Story
Planet of the Apes
The Princess Bride
Raiders of the Lost Ark
Return of the Jedi
7 Faces of Dr. Lao
Short Circuit
Silent Running
Something Wicked This Way Comes
Spacecamp
Star Trek (the TV series and the movie series)
Star Wars
Supergirl

Superman (movie series)

Testament

The Time Machine

Tron

Twilight Zone

2001: A Space Odyssey

War Games

Warriors of the Wind

Watership Down

When the Wind Blows

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Students can look to learning packets when choosing topics for research and investigation. Or you can use learning packets when assigning alternative learning activities based on—

- The current curriculum focus of the class
- The personal interests or curiosity of individual students and small groups
- Current issues of the school or community

Each learning packet includes—

- Approximately 50 activities
- Learning center ideas
- Two ability levels: elementary and middle school
- A bibliography of teacher resources
- A bibliography of topic-specific student resources

Your learning packets will arrive 3-hole drilled and ready to photocopy for classroom use.

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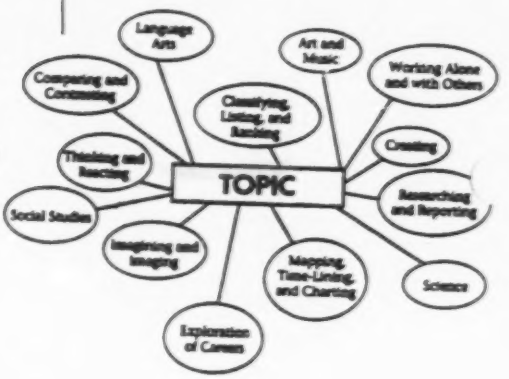

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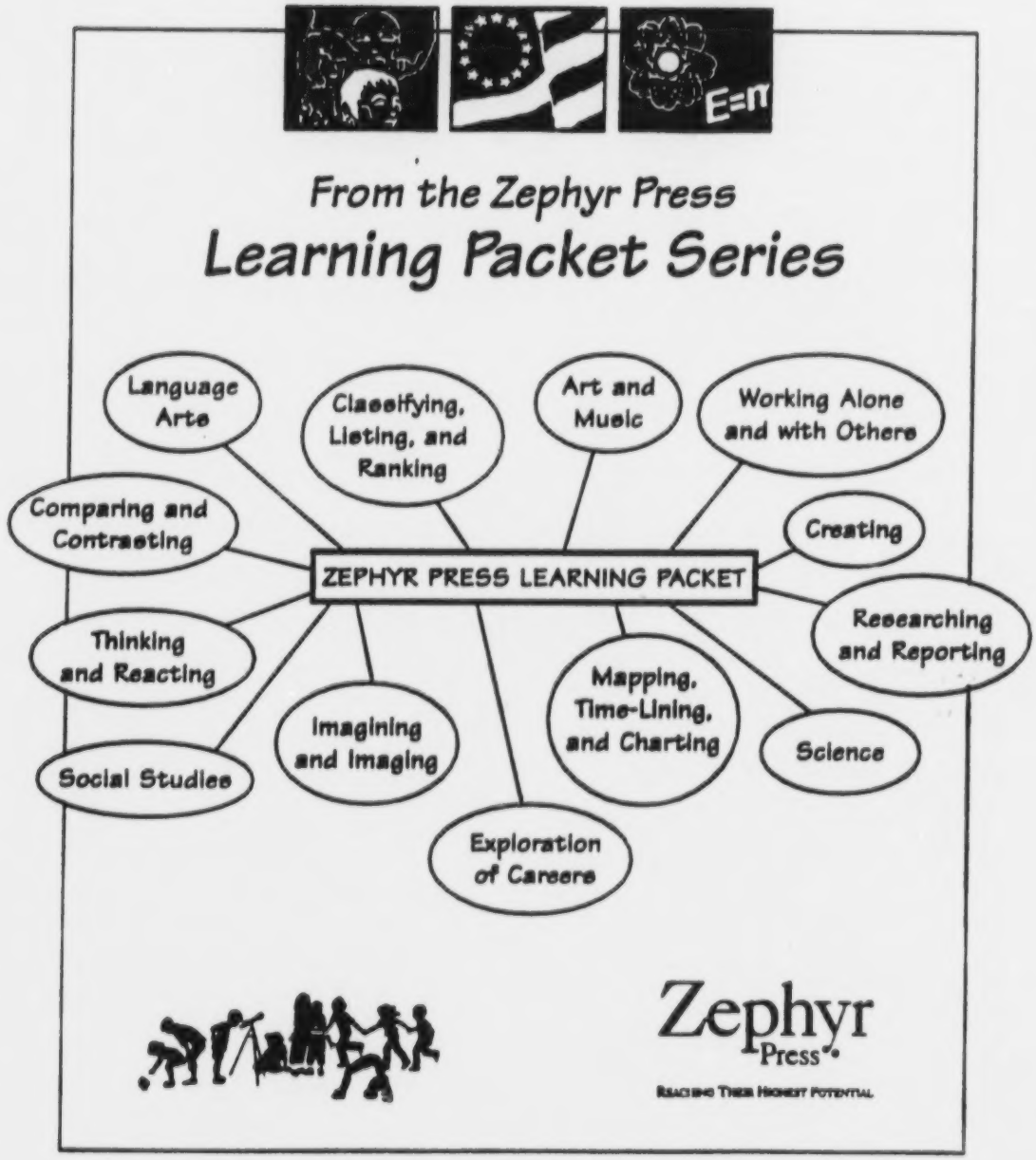

A SELF-DIRECTED LEARNING EXPERIENCE

Each packet:

- ★ is reproducible
- ★ requires little teacher preparation
- ★ works well with the entire class, individually or with a small group
- ★ includes two group levels: K–3 and 4–8, a bibliography, and learning center ideas